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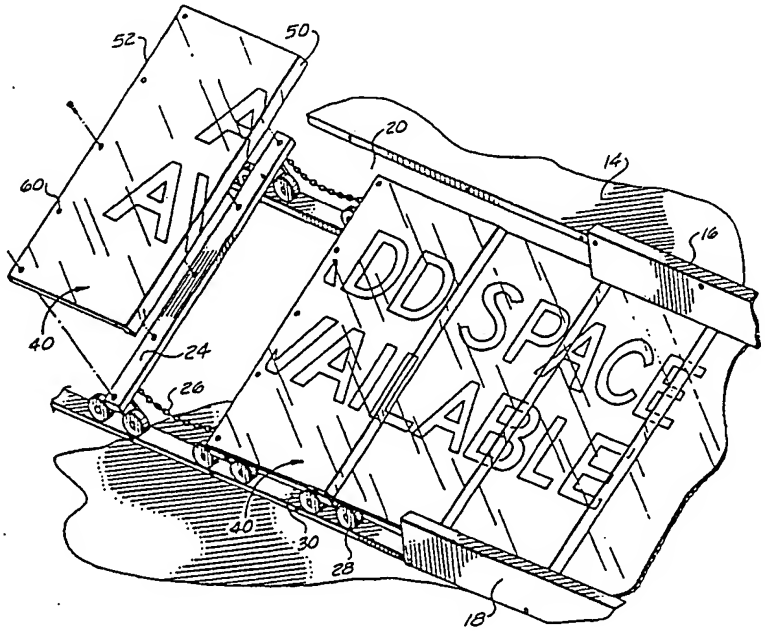

(57) Abstract

A conveyor (10), such as a baggage carousel, includes a plurality of improved panels (40), each consisting of a plate (44), and a thin layer strip (56) containing visual information affixed to its bottom surface. A series of adjacent panels (40) can produce one complete visual unit (42) such as an advertisement. Improved panels (40) are shaped to match the configuration of the

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CONVEYOR SYSTEM WITH PANELS CONTAINING VISUAL INFORMATION

Technical Field

This invention relates to methods and devices for advertising. More particularly, the present invention relates to visual information such as advertising on endless conveyors.

In a further and more specific aspect, the instant invention relates to panels having visual information forming the load carrying platforms on baggage carousels.

Background Art

Conveyors for carrying items from one location to another location are well-known in the art. Conveyors are often placed into an endless essentially circular position for dispensing baggage at an airport for instance. These endless conveyors are often called carousels because the baggage is placed onto the platform sections of the conveyor from a centrally located distributing point and the baggage is available to the passengers around either a circular or an oval pickup area. Especially in the baggage dispensing conveyors and especially in carousels in general, the platform that carries the baggage around the carousel includes a plurality of panels that are generally rectangular and overlay or abut their preceding panels to cover the circular area, especially around the ends of the oval section.

Advertisements are often placed on the center non-moving section of the carousel to display the benefits of staying in the local area around the airport or to advertise the different airlines The advertising area is extremely limited since the people to whom the advertising is directed generally locate into one

specific position around the carousel to retrieve their baggage and thereby only see a small section of the total advertising that could be placed on the non-rotating section of the carousel.

It would be highly advantageous, therefore, to remedy the foregoing and other deficiencies inherent in the prior art.

Accordingly, it is an object of the present invention to provide a conveyor having an improved means for displaying visual information.

Another object of the present invention is to provide a new and improved method for installing visual information on a conveyor.

Another object of the present invention is to provide an advertising device for use with baggage carousels that is relatively inexpensive, and easily installed.

And another object of the present invention is to provide an advertising device which is highly visible and durable.

Still another object of the present invention is to provide a new and improved method for making and using an advertising device for use on conveyor systems, which is relatively inexpensive, and produces highly visible and durable advertising devices.

Yet another object of the present invention is to provide advertising devices which can be used with conveyors, a plurality of which may be used on each conveyor, and which can be individually replaced or changed, to change the visual information.

The Applicant has filed a co-pending application entitled CONVEYOR WITH PLATFORM CONTAINING INDICIA, Serial No. PCT/US91/05602. The device in the co-pending application is a conveyor having a plurality of panels. Visual information is printed on a sheet of thin, slippery material, which is then attached to the top surface of the panels on the conveyors.

Disclosure of the Invention

An object of the present invention, therefore, is to provide a conveyor, especially a carousel conveyor, having an enhanced means for displaying indicia to the receiver of items mounted on the conveyor.

The present invention is an improvement to a conveyor wherein plates or panels that carry the items on the conveyor include indicia to continuously display information as the plates or panels pass an observer perhaps waiting to remove the items from the conveyor. The conveyor includes a means to support the panels and a means to transport the panels in sequence one after the other from first to last and again repeating with the first panel. Visual information is affixed to the underside of each panel. A plurality of sequentially placed panels can display an entire scene or advertisement, with each panel containing a portion of the total scene.

In particular, the improvement to the conveyor, which can be any of the endless conveyors using plates, includes a plurality of panels shaped from a transparent material, to substantially the same shape as the original steel plates on the carousel being improved. A thin layer containing visual information is affixed to the underside of each transparent panel. A series of thin layers containing visual information are affixed on adjacent panels to depict a single scene or advertisement. A buffer strip may be affixed to a surface of each panel proximate an edge overlapping an adjacent panel, to act as a buffer between the panels.

A method for depicting visual information on a conveyor or a carousel which includes a plurality of panels forming the support for the items carried by the conveyor includes the steps of providing panels of

transparent material shaped to fit the conveyor or carousel being used, providing a thin layer containing the visual information, cutting or otherwise separating the thin layer into strips which are approximately the width of the viewable section of each panel, fastening each strip of thin layer to the underside of a panel. Existing panels on the conveyor are then removed, and are replaced by panels bearing the desired visual information. When several adjacent panels are attached, a complete visual unit is composed.

A further best mode of installing visual information on a carousel includes providing metal panels shaped to fit the conveyor or carousel being used, with a thickness less than the original plate, and transparent panels shaped to match the metal panels, with a thickness which in combination with the metal panel is substantially the same thickness as the original plate. A thin layer containing visual information is affixed to the underside of each transparent panel. The transparent panel is then coupled to the top surface of the metal panel. The resulting panel is strengthened by the metal panel backing.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and further and more specific objects and advantages of the instant invention will become readily apparent to those skilled in the art from the following detailed description of the preferred embodiment thereof taken in conjunction with the drawings in which:

Fig. 1 is a partial perspective view of a baggage carousel improved in accordance with the teachings of the instant invention;

Fig. 2 is a partial perspective view of a baggage carousel with a portion exploded to illustrate the attachment of panels, and the under structure;

Fig. 3 is an exploded view in perspective, showing an improved panel;

Fig. 4 is a partial cross-sectional view showing the leading edge of one embodiment of an improved panel;

Fig. 5 is a partial cross-sectional view illustrating the overlapping relationship of two adjacent panels;

Fig. 6 is a partial perspective view of a carousel device with the addition of numerous improved panels forming a visual unit;

Fig. 7 shows a section of improved panels of a carousel as prepared in the second method, with the partitioned visual information attached;

Fig. 8 shows the section of panels illustrated in Fig. 7 after they have been installed on a conveyor to form a visual unit;

Fig. 9 is an exploded perspective view of an embodiment of an improved panel; and

Fig. 10 is an exploded perspective view illustrating an embodiment of an improved panel with a supporting plate.

BEST MODES FOR CARRYING OUT THE INVENTION

Turning now to the drawings in which like reference characters indicate corresponding elements throughout the several views, attention is first directed to Fig. 2 which illustrates a baggage carousel generally designated 10. While the present invention may be used with endless conveyors in general, it is especially useful for improving baggage carousels well-known in airports. Baggage carousel 10 includes a plurality of panels 12 that move around the periphery of carousel 10 to carry the baggage around the carousel to the people standing and waiting to receive their baggage. Panels 12 are upstanding between an elevated platform 14 with an upper rail 16 around its periphery and a lower rail 18 around the periphery of the entire carousel. A section is cut out of elevated platform 14 for baggage loading means such as a belt conveyor 20. This is not illustrated in Fig. 2, but can be seen in Fig. 1. Belt conveyor 20 carries the baggage from a baggage loading area which is generally placed at a lower level. Belt conveyor 20 carries the baggage up to the height of elevated platform 14 to slide the baggage onto panels 12. Since panels 12 are at an inclined angle, the baggage will slide down panels 12 from the level of upper rail 16 down to the level of lower rail 18. Panels 12 are generally essentially rectangular shaped.

Fig. 2 further illustrates an exploded section of carousel 10 to show individual panels 12 and a section of the transport means that causes panels 12 to be transported around the circumference of carousel 10. An upper rail section 16A is shown removed from the remaining portion of upper rail 16. Likewise, a lower rail section 18A is removed from the remaining section of lower rail 18 located around the periphery of carousel 10. This then permits panels 12 to be removed from the transport system itself. Panels 12 are fastened by

screws, for instance, to a plurality of spaced-apart support bars 24. Each support bar 24 is interconnected by a plurality of chains 26 with adjacent support bars 24 forming a continuous circuit. Each support bar 24 has, preferably, two rollers 28 fastened at each end for moving along a track 30 on which rollers 28, support bars 24, and therefore panels 12 are supported. Generally, an electric motor drive (not shown) causes support bars 24 to move around the periphery of carousel 10. The interconnecting chains 26 pull support bars 24 along track 30. A series of panels 12 can be easily removed from their associated support bars 24 by removing the screws holding each panel 12 to its support bar 24.

Still referring to Fig. 2, each panel 12 is generally formed from a metal such as stainless steel, and includes a viewable section 32 and an overlapping section 34. With this specific carousel design, panels 12 have a leading edge 36 which overlap a trailing edge 38 of the adjacent panel. In this specific carousel 10, trailing edge 38 contains screw holes through which screws are inserted and coupled to support bars 24. Those skilled in the art will understand that while baggage carousel 10, generally oval in shape and having rectangular panels 12 is illustrated, there are many other conveyor and baggage carousel designs upon which the present invention may be used. Generally, these differences consist of differing panel shapes and designs, carousel shape differences, or differing support bars. It will be understood that the present invention may be used with any conveyor which uses removable panels.

Referring to Fig. 1, as illustrated in Fig. 2, and discussed above, carousel 10 is shown with improved panels 40 of the present invention, replacing conventional panels 12. The visual information carried by each improved panel 40 may be a complete ad, or other

visual imaging, but in the preferred embodiment is a segment of a visual unit 42. A series of panels containing visual information form a complete visual unit. This visual unit may be an advertisement, information or other visual imagery. The modifications to carousel 10 and the production of improved panels 40 will be discussed in detail below.

Referring to Fig. 3, an exploded view of an improved panel 40 is shown. Improved panel 40 consists of a plate 44, which in this embodiment is rectangular and formed from a strong resilient and transparent material, and visual information affixed thereto. In this embodiment, a polycarbonite, which is transparent, scratch-resistant, has low friction, is rigid, and is formable, is used to form plates 44. However, it will be understood by those skilled in the art that any material having the necessary characteristics may be used. The shape of plate 44 is determined by the type of carousel, such as carousel 10 upon which it is to be used. Plate 44 is shaped so it is identical to panels 12 of carousel 10. In this embodiment, plate 44 is rectangular to match panels 12 and includes a viewable section 46 and an overlapped section 48. With this specific carousel design, plates 44 of improved panels 40 have a leading edge 50 which overlap a trailing edge 52 and overlapped section 48 of an adjacent plate 44. However, other conveyor systems have different shaped panels such as the crescent shape illustrated in Fig. 8. It will be understood that plate 44 may be shaped to match the panels of any conveyor system. Panels 12 of carousel 10 may also have slight bends in them to relieve the stress placed on them as they move around the corners of the carousel. It will also be understood that plate 44 may include any of these stress-relieving bends. The stress-relieving bends on conventional panels may be located at different places on the panels, depending on the manufacturer. Plates 44 can be shaped with any of the many different bends.

To form a visual unit 42 consisting of several improved panels 40, a number of plates 44 are formed having the appropriate shape. A thin layer is provided, upon which the visual information is printed. There are a variety of methods of printing which may be used, including use of silk screen or photographic techniques. In the preferred embodiment, the thin layer may be vinyl, polyester, or any similar material. The thin layer is then cut into a number of strips 56. While the thin layer is divided into strips 56, with each strip 56 containing a segment of the complete visual unit 42, those skilled in the art will understand that a thin layer may be provided in a size sufficient for one panel 40. In this case, a complete visual unit would be printed on the thin layer, and then affixed to a single plate 44. This is not illustrated, however, because a series of panels 40 forming a visual unit 42 is preferred. Each strip 56 is affixed to the underside of a plate 44 with an adhesive 58 forming improved panel 40. Adhesive 58 is applied to the face of each strip 56, which is then placed in contact with the underside of plate 44 so that visual information can be seen when looking through the top surface of plate 44. It will be understood by those skilled in the art that adhesive 58 may be any adhesive which will securely fasten polyester, vinyl or like material to a polycarbonite, however, Permatrans®, a product of Mactac, Technical Products division is the preferred adhesive.

Each strip 56 is of substantially the same width, generally identical to the width of viewable section 46, of improved panel 40. In this embodiment, strip 56 is affixed to plate 44, starting slightly back from leading edge 50 to prevent materials such as dirt, dust or other particles, which may infiltrate between improved panels 40, from damaging or removing strips 56. Each strip 56 is affixed to a plate 44 substantially the same distance

from leading edge 50, to aid in aligning the entire visual unit 42. Since strips 56 are of generally the same width, and extend back towards the trailing edge substantially the same distance, when improved panels 40 are attached to support bars 24, as illustrated in Fig. 6, strips 56 align to form a complete visual unit 42.

Referring to Fig. 6, once strips 56 are affixed to plates 44 forming improved panels 40, screw holes 60 are formed in trailing edge 52 of improved panels 40. It will be understood by those skilled in the art, that other panel configurations for use on different conveyor designs will have variously located screw holes for attachment, or even different attachment means entirely. The present invention may be attached to a conveyor, using whatever attachment means that was originally used. The original panels 12 on carousel 10 are removed, and replaced with improved panels 40. A number of adjacent improved panels 40 containing strips 56 combine to form a visual unit 42. A number of visual units 42 can be supported by a carousel 10 as illustrated in Fig. 1.

Referring to Fig. 4, the leading edge 50 of improved panel 40 is shown. In this embodiment, leading edge 50 is beveled to remove stress on improved panel 40 when improved panel 40 is traveling around the bends in carousel 10. The very tip of the beveled area is rounded to remove any sharp edges which would be present if it was squared rather than round. This rounding prevents scratches on the adjacent improved panel 40 which it overlaps. It will be understood by those skilled in the art that while a bevel is shown here to relieve stress around the corners, improved panels 40 may not be beveled, with the stress on the panels at the corners being relieved by other means. When no bevel is used, the entire leading edge could be rounded off to remove edges. If it is not beveled, improved panel 40 may have other features which relieve stress and which were

discussed earlier. Conventional panels 12 were often bent near leading edge 36, or back a distance from leading edge 36 to relieve stress. Improved panel 40 may employ identical bends, matching the original panels or panel designs that were used or designed to be used on the conveyor. Improved panels 40 may also have bends in any of the other locations used to relieve stress. The bevel may even be used to relieve stress in combination with other stress-relieving means.

Still referring to Fig. 4, plate 44 may have an inset 62, starting proximate leading edge 50 and running back to trailing edge 52. Inset 62 would allow for exact placement of strips 56 on plate 44 for alignment purposes. Inset 62 would also provide protection to strips 56, preventing them from being scratched by panels it overlaps, as illustrated in Fig. 5. Fig. 5 illustrates the overlapping of two improved panels 40 on a straight stretch of carousel 10. In this case, strips 56 of material are closely aligned so that it appears, when viewed from above, that a continuous visual unit 42 is present. However, when progressing through the corners of the machine, panels 40 will overlap to a greater degree near the top, slightly distorting visual unit 42 as illustrated in Fig. 1. With inset 62, this overlapping and sliding movement between panels will not damage strips 56 of the thin layer. However, it will also be understood that while an inset 62 is illustrated in the preferred embodiment, improved panel 40 without inset 62 would be effective as illustrated in Fig. 9. The panel illustrated in Fig. 4 would be produced by injection molding, with inset 62 present for aligning strips 56 and offering greater scratch protection.

For esthetic purposes, additional strips of thin border material 57 may be attached to plates 44 above and below strips 56 as illustrated in Fig. 3, to border and highlight visual unit 42. The border material above

strips 56 may be affixed to the upper surface of plate 44, causing each overlapping panel to be slightly raised near the top of conveyor 10. This will relieve some stress when traversing the corners, and reduce the contact between panels 40. When the border is used in this way, a piece of acetal homopolymer or like material is used.

A panel may be produced without inset 62 simply by cutting the desired shape panel from a sheet of polycarbonite or like material. The use of a panel without an inset, is illustrated in Fig. 9. In this embodiment, of an improved panel generally designated 80, a rectangular plate 82 is formed from a polycarbonite, such as Lexan®. As with plate 44 of panel 40, plate 82 of panel 80 may be formed to be used with substantially any conveyor system. Plate 82 has a top surface 83 a bottom surface 84, a leading edge 85 and a trailing edge 86.

A thin layer containing visual information is cut into strips 88, sized to match plates 82. In this embodiment, the thin layer has visual information incorporated therein using photographic techniques. The thin layer may be photographic paper on which a photographic emulsion is developed. The thin strip is then separated into strips 88 which is affixed to bottom surface 84 of plate 82. Those skilled in the art will understand that the thin layer may be a vinyl or like material with the visual information printed thereon using a silk screen technique. A complete visual unit 42 as illustrated in Fig. 1 would be aligned by using identical width strips 88, and attaching them to a uniform distance from leading edge 85. In this embodiment, strip 88 would preferably extend substantially the entire length, from top to bottom, of

plate 82. No border material 57 would be needed, since any border for esthetic reasons could be incorporated into the photograph.

The addition of a buffer strip 89 aides in preventing scratching of plates 82. Buffer strip 89 is affixed to bottom surface 84 proximate leading edge 85 and extends substantially the entire length of leading edge 85. Buffer strip 89 may be any material which is soft and resilient, allowing it to slide over adjacent panel 80 to prevent scratching, yet tough enough to withstand the sliding movements between plates 82. The material found to be very effective as a buffer strip is the loop element of velcro® fasteners. Buffer strip 89 will ride on the trailing edge 86 of adjacent panel 80, preventing scratching of the panel surface. To prevent scratching of bottom surface 84, the top surface of trailing edge 86 is rounded. This removes the sharp edge which could scratch the bottom surface 84 of adjacent panels.

Still referring to Fig. 9, once strips 88 are affixed to plates 82 forming improved panel 80, screw holes 90 are formed in trailing edge 86 so panel 80 can be attached to support bars 24 of baggage carousel 10.

Once a set of improved panels has been produced, they are installed on carousel 10 by removing conventional panels 12 or removing the improved panels having visual information which is to be replaced. The new set of improved panels is attached by bolts to support bars 24 in sequence, forming a complete visual unit 42. The visual units are easily replaced by removing the improved panels, and replacing them with newly prepared panels produced as discussed above.

Fig. 8 illustrates crescent shaped improved panels 64, to illustrate the use of the present invention on

various carousels having different panel configurations. A baggage carousel plate similar to plates 44 is constructed of transparent material such as polycarbonite or similar material. The plate dimensions and design again, may vary depending on the baggage carousel used. Here, a crescent shape is illustrated, and is adaptable to all crescent panel type carousels. A visual unit, such as an ad, is printed on a thin layer of vinyl or similar material. An adhesive is placed on the face of the ad. The ad is then cut into strips 68 to match the configuration of a crescent shaped plate. Strips 68 are then attached to the bottom surface of the crescent carousel plate so that the face of the thin layer is attached to the bottom of the plate. Several plates may be used to form an entire ad as illustrated in Figs. 7 and 8. Existing crescent shaped panels (not shown) are removed from the carousel. Improved crescent panels 64 containing the visual information are attached to the carousel in the same manner as the previous panels. When several improved panels 64 are attached, a complete visual unit is composed as illustrated in Fig. 8.

A further embodiment of an improved panel generally designated 92 is illustrated in Fig. 10. A transparent plate 93 is constructed of polycarbonite or similar material, shaped to match the original panel shape of the specific carousel being used. In this embodiment a crescent shape is illustrated. Transparent plate 93 has a top surface 94, bottom surface 95, leading edge 96, and a trailing edge 98. Coupling screw holes 99 are formed proximate trailing edge 98, and support screw holes 100 are formed around the periphery of transparent plate 93. Visual information is printed or photographed on a thin layer, which is then cut into strips 102 to match the configuration of crescent shape transparent plate 93. Strips 102 are then attached to the bottom surface 95 of transparent plate 93.

A support plate 103 shaped to match transparent plate 93 has coupling screw holes 104 and support screw holes 105 located to correspond to coupling screw holes 99 and support screw holes 100 of transparent plate 93. Support plate 103 is coupled to the bottom surface of transparent plate 93 by screws extending through support screw holes 100 and 105. Those skilled in the art will understand that while a support plate 103 is attached to transparent plate 93 by screws, an adhesive or similar material may be used. Screws may be used to couple the trailing edges of the plates, while an adhesive, such as double sided tape is used to couple the plates near the leading edge. This removes any screw holes from the viewable portion of panel 92. Support plate 103 and transparent plate 93 sandwich strip 102 therebetween. Support plate 103 is preferably formed of steel, and is used to add strength to transparent plate 93. In typical carousels using crescent shaped plates, the standard plate is .250 inches thick and made of steel. In this embodiment, transparent plate 93 would be .125 inches thick and support plate 103 would be .125 inches thick providing a panel 92 substantially the same thickness as the original steel plate. The extra strength in the support plate 103 may be desirable in some crescent type carousels, which typically have less support under the panels than the rectangular type carousels. However, those skilled in the art will understand that the rectangular paneled carousels may also employ a support plate. Panel 92 is coupled to the carousel by coupling screw holes 99 and 104.

While lighting in most airports is sufficient to view panels 40 on baggage carousels, enhancing visibility would always be desirable. The addition of back lighting would serve this purpose. The transparency of the plates allows light to be transmitted through an edge, illuminating the entire panel. The result would be an increased intensity to the colors in the visual units,

illuminating them for enhanced visibility. This could be accomplished by placing a plurality of light sources as shown by arrow 70 in Fig. 6, around carousel 10, near the underside of improved panels 40, adjacent to their lower or upper edges.

Various changes and modifications to the embodiment herein chosen for purposes of illustration will readily occur to those skilled in the art. For example, while the thin sheet upon which the visual information is printed was described as being vinyl or polyester material, it will be understood that the thin layer which contains the visual information, may be composed solely of ink. In this case, the ink may be hot stamped directly into the back surface of plates 44. To the extent that such modifications and variations do not depart from the spirit of the invention, they are intended to be included within the scope thereof which is assessed only by a fair interpretation of the following claims.

Having fully described the invention in such clear and concise terms as to enable those skilled in the art to understand and practice the same, the invention claimed is:

CLAIMS

1. A conveyor comprising:

a plurality of transparent panels, each containing visual information;

a plurality of support bars, at least one of which corresponds to each of said plurality of transparent panels;

means for supporting said support bars in a spaced-apart relationship, forming a continuous circuit;

means for removably fastening each of said plurality of transparent panels to said support bars; and

means for transporting said support bars with corresponding transparent panels along said support means.

2. A conveyor as claimed in claim 1 wherein said transparent panels are fastened to said support bars consecutively so that each transparent panel has a viewable portion substantially contiguous with the viewable portion of adjacent transparent panels.

3. A conveyor as claimed in claim 2 wherein each of said transparent panels further comprises:

a plate shaped to engage said support bars, and having a top surface and a bottom surface; and

a thin layer containing visual information affixed to said bottom surface of said plate.

4. A conveyor as claimed in claim 3 wherein said thin layer is a material with visual information printed thereon affixed to said bottom surface of said viewable portion of said plate with an adhesive.

5. A conveyor as claimed in claim 3 wherein said thin layer is a medium forming said visual information, affixed to said viewable portion of said plate by hot stamping.

6. A conveyor as claimed in claim 3 wherein said fastening means comprises:

screw holes formed in each of said transparent panels corresponding to screw holes in each of said support bars; and

screws inserted in said screw holes fastening said transparent plates to said support bars.

7. A conveyor as claimed in claim 3 wherein a series of thin layers containing visual information are affixed to plates forming panels which are fastened consecutively to said support bars, forming a complete visual unit.

8. A conveyor as claimed in claim 3 wherein said transparent panels are back lit by a light source.

9. A conveyor as claimed in claim 3 wherein said plate is formed from polycarbonite.

10. A baggage carousel comprising:

a plurality of support bars;

means for supporting said support bars in a spaced apart relationship and forming a continuous circuit;

a plurality of item-bearing transparent panels including;

a plate, shaped to engage said support bars, and having a top surface and a bottom surface, and

a thin layer containing visual information affixed to said bottom surface of said plate,

means for removably fastening each of said plurality of transparent panels to said support bars consecutively so that each transparent panel has a viewable portion substantially contiguous with the viewable portion of adjacent transparent panels; and

means for transporting said support bars with corresponding transparent panels along said support means.

11. A baggage carousel as claimed in claim 10 further comprising a support plate configured to engage said bottom surface of said transparent panel.

12. A baggage carousel as claimed in claim 10 wherein each of said panels partially overlaps an adjacent panel so that each panel has an overlapped portion and a viewable portion.

13. A baggage carousel as claimed in claim 12 wherein said thin layer is a material with visual information printed thereon affixed to said bottom surface of said viewable portion of said plate with an adhesive.

14. A baggage carousel as claimed in claim 10 wherein each of said panels has a leading edge and a trailing edge, said leading edge of each panel abutting said trailing edge of adjacent panels.

15. An information panel for use on a conveyor comprising:

a transparent plate having an upper surface, and a lower surface;

a thin layer containing visual information affixed to said lower surface of said transparent plate, so as to be visible through said upper surface.

16. An information panel as claimed in claim 15 further comprising a support plate configured to engage said transparent plate, coupled to said lower surface of said transparent plate so as to sandwich said thin layer therebetween.

17. A panel as claimed in claim 15 wherein said thin layer is a material with visual information printed thereon affixed to said bottom surface of said plate with an adhesive.

18. A panel as claimed in claim 15 wherein said thin layer is a medium forming said visual information, affixed to said viewable portion of said plate by hot stamping.

19. A panel as claimed in claim 15 wherein said plate is made of a polycarbonite.

22. A method as claimed in claim 21 wherein the step of providing a thin layer further comprises the steps of:

providing a thin layer; and

printing visual information on a surface of said thin layer.

23. A method as claimed in claim 22 wherein the step of affixing a strip of thin layer further comprises the steps of:

applying an adhesive to said printed surface of said strips; and

placing said adhesive coated surface of said strips against said viewable portion of said lower surfaces of each transparent plate.

24. A method as claimed in claim 20 wherein the step of providing transparent panels containing visual information further comprises the steps of:

providing transparent plates having an upper surface, a lower surface, and configured to be attachable to said conveyor; and

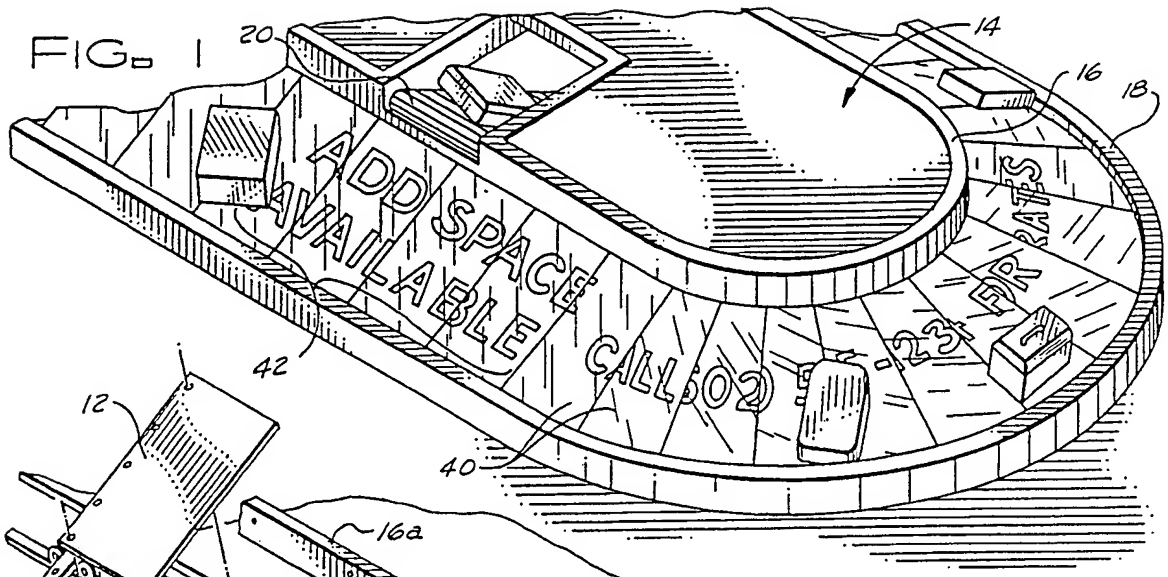
hot stamping visual information onto said lower surface of said transparent plate.

25. A method as claimed in claim 21 further comprising the steps of:

providing a support plate having an upper surface and a lower surface, configured to be attachable to said conveyor;

attaching said support plate to said bottom surface of said transparent plate so as to sandwich said thin layer therebetween.

FIG. 1



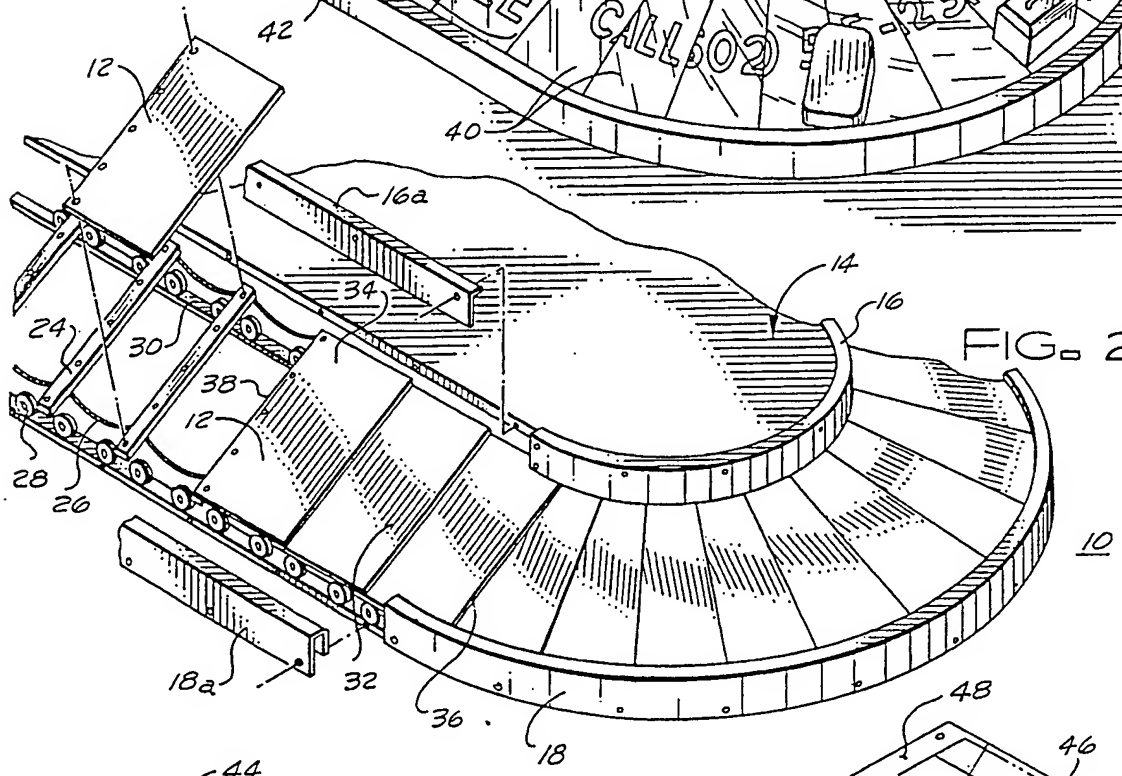


FIG. 2

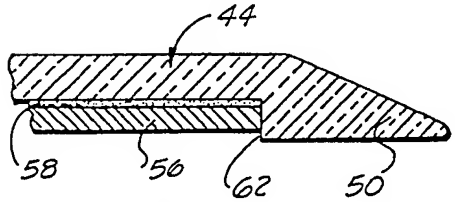


FIG. 4

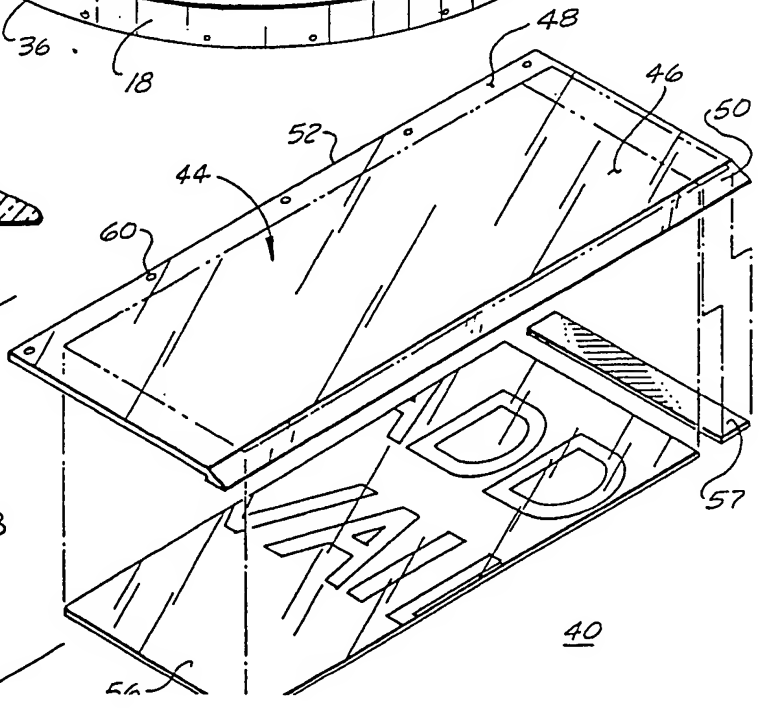


FIG. 3

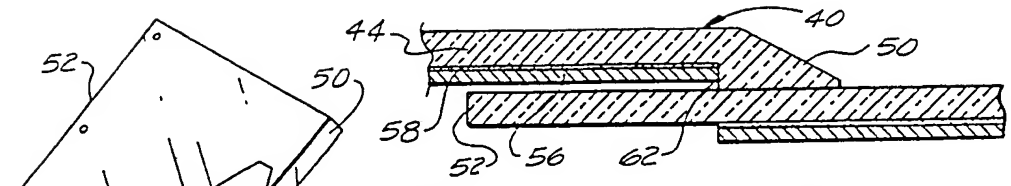


FIG. 5

FIG. 6

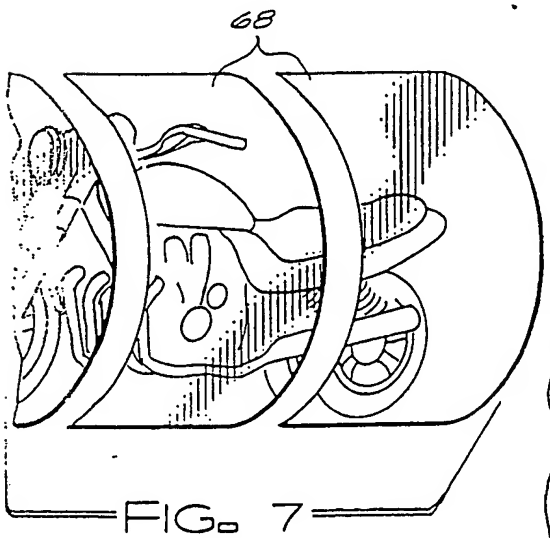


FIG. 7

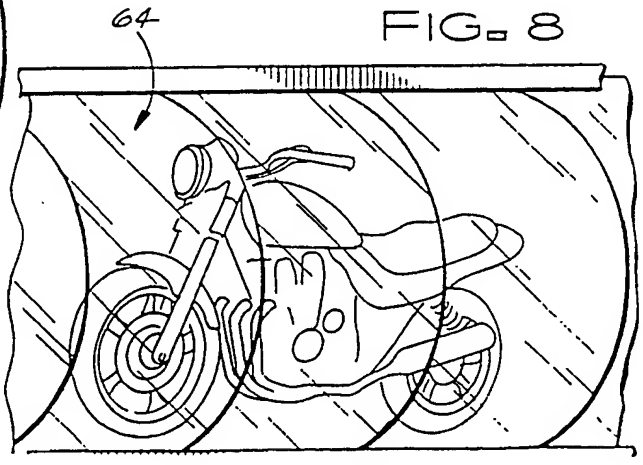


FIG. 8

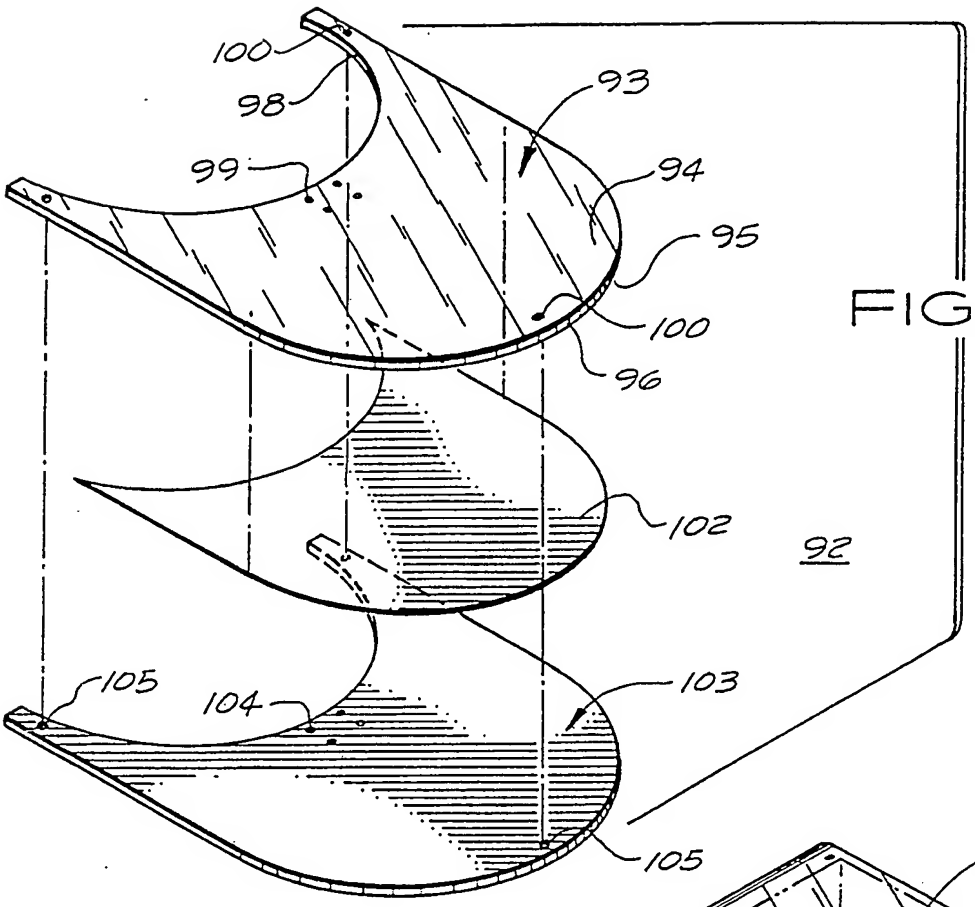

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FIG. 10

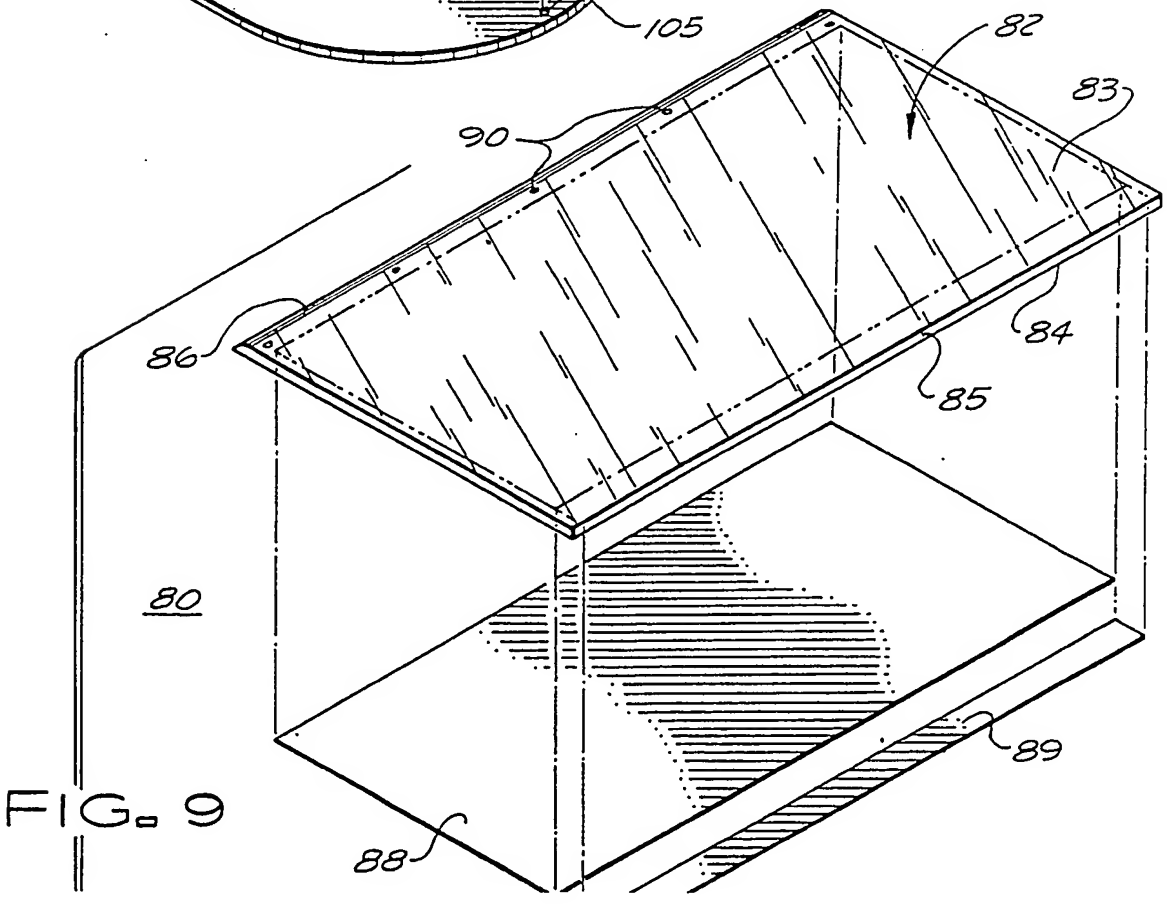
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FIG. 9

INTERNATIONAL SEARCH REPORT

International Application No PCT/US 92/03227

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [6]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC[5]: B 65 G 17/06, G 09 F 21/00

II. FIELDS SEARCHED

Minimum Documentation Searched [7]

Classification System	Classification Symbols
IPC[5]	B 64 F, B 65 G, G 09 F

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched [8]

III. DOCUMENTS CONSIDERED TO BE RELEVANT [9]

Category [10]	Citation of Document, [11] with indication, where appropriate, of the relevant passages [12]	Relevant to Claim No. [13]
A	US, A, 4 167 999 (HAGGERTY) 18 September 1979 (18.09.79), see fig. 2. --	1,10, 15
A	US, A, 3 877 567 (SOMMERFIELD) 15 April 1975 (15.04.75), see fig. 1. --	1,10, 15
A	EP, A1, 0 445 569 (JAPAN TOBACCO) 11 September 1991 (11.09.91), see fig. 1. ----	1,10, 15

* Special categories of cited documents: [14]

"A" document defining the general state of the art which is not considered to be of particular relevance

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report
24 September 1992	07 OCT 1992
International Searching Authority	**Signature of Authorized Officer**
EUROPEAN PATENT OFFICE	BAUMGARTNER e.h.

ANHANG

zum internationalen Recherchenbericht über die internationale Patentanmeldung Nr.

ANNEX

to the International Search Report to the International Patent Application No.

PCT/US 92/03227 SAE 62168

ANNEXE

au rapport de recherche international relatif á la demande de brevet international n°

In diesem Anhang sind die Mitglieder der Patentfamilien der in obengenannten internationalen Recherchenbericht angeführten Patentdokumente angegeben. Diese Angaben dienen nur zur Unterrichtung und erfolgen ohne Gewähr.

This Annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The Office is in no way liable for these particulars which are given merely for the purpose of information.

La présente annexe indique les membres de la famille de brevets relatifs aux documents de brevets cités dans le rapport de recherche international visée ci-dessus. Les renseignements fournis sont donnés á titre indicatif et n'engagent pas la responsibilité de l'Office.

In Recherchenbericht angeführtes Patentdokument Patent document cited in search report Document de brevet cité dans le rapport de recherche	Datum der Veröffentlichung Publication date Date de publication	Mitglied(er) der Patentfamilie Patent family member(s) Membre(s) de la famille de brevets	Datum der Veröffentlichung Publication date Date de publication
US A 4167999	18-09-79	DE A1 2737181	23-02-78
		FR A1 2362060	17-03-78
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		JP A2 53026076	10-03-78
		NL A 7709147	21-02-78
US A 3877567	15-04-75	keine - none - rien	
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